

## HOW CORAL INSECTS BUILD

**PROBLEM THAT LONG WAS A  
POSSER TO NATURALISTS.**

**The Solution Offered by Darwin  
Seventy Years Ago Now Com-  
monly Accepted.**

from the St. Louis Globe-Democrat.

Among all the varied productions of living nature none can perhaps vie in respect of interest with those of the coral animal. From our boyhood's days we have been accustomed to read of coral islands, but it is to be feared that many of the descriptions given of these structures in the tales were borrowed over in our youth must be ranked more as successful ventures in the line of fiction than in that of actual science. Yet the scientific side of the story of coral is quite as wondrous in its way as any romance which the fertile brain of the story writer is able to conceive.

Every one is familiar, from a visit to a natural history museum, with the general appearance of coral. There are, of course, very many different species of structures included under this common name. We see great masses of stony hard branching fantastic shapes, and constituting in their

elaborate description and may assume the form of miniature organ pipes, while the structure of it, so much valued for the manufacture of coral-ivory, is so different from the opposite extreme from the coarse, stony masses referred to. I may explode at the first the idea of a coral growing like a small tree-like form. The idea that islands are composed of coral is a notion of pure fiction, and those corals which more especially concern us here as the builders of reefs are represented by the coarse, stony masses familiar in museums, but also often used in the construction of grottos and ghermies.

**Not an Old Discovery.**

It is not so very long ago in the history of science that this was discovered to be the work of an animal. The ancient regarded coral, and especially the sea anemone which they knew best, as the work of the marine plant. Latin poets tell us of the coral plant, which is soft in its native quarters, but becomes hard when drawn up from the sea and exposed to the action of the air. The moderns, however, as Plessey<sup>1</sup> discovered, the fact that coral is a substance represented by the secretion of the kind of animal which makes coral. I compared this animal to the sea anemone, which we find in every rocky hollow around our own coasts. In so doing he was perfectly right, and the animal was of the same kind of insect and a familiar denizen of the seaside.

the latter and the coral animal. The former is a single animal, the corals are usually colonies of many animals. The coral animal gives rise to another by a process of budding, and in this way a mass of animals is produced, the work of one animal, but many animals are produced as a kind of colony in the way just described. It is in this power of increase that the coral animals are so powerful to construct reefs of great magnitude. It is this which is practically an unlimited power of increase, they succeed in producing enormous colonies, and we must not forget that every coral animal has the power of producing eggs. Each egg which comes to full development settles down to its original position, and is so that in turn buds like its forefathers, and a new colony is thus commenced.

**Carbonate of Lime.**

Regarding coral itself, we find that substance to be represented by a hard carbonate of lime. The matter which we find accumulated in boilers and kettles in hard water is nearly as possible represents the coral substance. The material for making this hard substance is composed of which also constitutes another difference from the sea anemone, is obtained from the sea water. Carbonate of lime exists in so much abundance in the water, and the coral animals are able to extract it from the sea, build it up in the form of their bodies, and then either with or without their bodies. In this way when the coral animals themselves die they leave behind them a substance which is called "the imperishable masonry of the

course, limited to corals. We are familiar enough with it in the case of plants, but many other animals besides corals grow in this manner. The growth of the coral. Corals can also add to the number in a colony through another process, namely, simple division of the body. We see how the body simply divides in two given to two individuals, and thus adds to the numerical strength of the mass. The conditions under which corals live and grow are very simple. They require only water, and the words—a certain heat and a certain depth. The question of heat naturally sets the range of the coral in space; that is, it determines the latitudes in which they grow on earth. The reef-building corals do not flourish in seas where the water is below 60 degrees below the boiling point of Fahrenheit. It will therefore be seen that the summer tropics are the regions where we may expect to find the fullest development of coral life.

**VALUE OF CONVERSATION.**

**Ready Tongue Often Helps Men to the Front.**

from Success.

Great and important as are the uses of conversation by the individual, for the speaker, there is another more practical benefit from it, of which I wish to speak in this article, namely, as a help to worldly advancement or success in life. First there is the advantage to be derived from the understandings of other men in the exercise of our own. Every man in a social circle

which he is at home and better qualified to speak than any one else. No individual, however acute or strongminded, can sift and probe to the bottom of a subject so effectively as the minds of many men converged on it and looking at it from different angles.

Daniel Webster, who, if any man could do so, might have trusted his own unaided judgment in forming an opinion or deciding a question, was a man of great faith. He had to be derived from conversation. "In my education," he once said to Charles Sumner, "I have found that conversation is the quickest way of getting at the truth. Good fortune to meet has done more for me than books ever did; for I learn more from them in a talk of half an hour than I could from a book of a hundred pages." In their minds, in conversation, come into intimate contact with my own mind, and I absorb certain secrets of their power, which I cannot get from books. I have been detected in their books. Conversely, converse with living men faces a face, and I get the truth from the best sources of knowledge."

The great English philosopher, John Locke, held a similar view. When asked how he had acquired his knowledge, he said, "I have no knowledge as I possess it, he replied that he attributed what little he knew to his not being ashamed to ask for information and to a rule he had adopted of conversing."

**Schools as Social Centers.**

From the Chicago River Ocean.

Public school buildings will become social

school entertainments and similar gatherings. The recommendations adopted by the school management committee at its meeting yesterday afternoon are approved by the board of education. The subject came before the committee in a report from Superintendent of Schools Cooley, after his report yesterday morning. In his report after a brief discussion, the report Superintendent Cooley recommended that the school buildings be opened free of charge for the following purposes, subject to such rules as may be made by the board of education: (1) for the use of the school buildings for the purpose of holding school exercises, annual graduation exercises, annual meeting each year, meetings of students of the school, and other school purposes; (2) for the use of the school buildings for the purpose of holding school entertainments, approved by the principal of the school in which the entertainment is to be held, lecturers, and other persons; (3) for the use of the school buildings for the purpose of holding school entertainments already authorized in each school and the opening of the public school buildings after regular school hours for the purpose of holding school entertainments for the purpose of such purpose as shall be a constructive educational purpose.